Intervener's Name: AANDC

IR # / Issue	Comment	Recommendation/Observation
AANDC#1: 20014 AANDC Site Inspection	1.1 During a recent AANDC site inspection conducted on July 10, 2014. AANDC personnel found that there was visual evidence of possible minor subsidence in the same area as past subsidence events. The visual evidence included several holes of unknown depth, surface cracks and a few minor depressions.	In light of the recent 2014 AANDC site inspection, AANDC recommends that the geotechnical stability of the area of past and recent possible subsidence should be re-evaluated and that remediation plans for this area should be updated as required and submitted to the NWB for review and approval.
	1.2 In the vicinity of the area of subsidence and the north portal there are galvanized metal culvert-like structures that are becoming unearthed. These structures were apparently used to line raise bore holes. The "culvert" ends exposed through the surface of the ground may be difficult to see from ski-doo or ATV and could pose a risk to people or wildlife in the area.	The licensee should develop a remediation plan to mitigate the risk from these structures, such as removing them if possible and ensuring the bore holes are appropriately backfilled.
	1.3 There is an emergency shelter/cabin remaining on site.	Teck should confirm whether this shelter has been claimed by someone or an organization. Given the visual findings of the 2014 site inspection, and the possibility of further site work, Teck may require this shelter in the future. Teck should notify the NWB as to the end use of the shelter.
AANDC #2 Geotechnical Concerns	2.1 AANDC had requested, in a letter dated June 2, 2014 submitted to the NWB, that the licensee provide annual reports, including geotechnical inspection reports for 2012 and 2013 as required under Part B Item 6, Part H Item 27 and Part H Item 6 respectively of the current (expired) licence 1AR-POL0311. In a letter submitted to the NWB dated June 19, 2014 Teck responded to the above request by stating that no activity was conducted during 2012 or 2013. Teck also stated that they have adopted the approach outlined in the AANDC's Contaminated Sites program guidance document entitled Abandoned Military Site Remediation Protocol (INAC,2009).	AANDC observes that while alternate approaches may be suitable for future site management, Teck remains bound by the terms and conditions of their current (expired) water licence until licence amendments come into effect.
	2.2 The licensee has proposed a new long-term geotechnical monitoring program for the Polaris Mine Site.	AANDC has reviewed the licensee's proposed long-term geo-technical monitoring program and recommends that the plan be approved and adopted into the next water licence. However, AANDC also recommends that if a geotechnical inspection indicates the need to conduct work on site, the inspection interval should be re-evaluated or if an AANDC inspector determines that on-site conditions pose a significant risk to people or the environment, then a geotechnical inspection should be conducted within two

		years, and the inspection interval should be re-evaluated.
AANDC # 3 Water Quality Monitoring Concerns	3.1 AANDC had requested that the licensee provide the monitoring data for 2012 and 2013 as required under Part H Item 37 of the current (expired) licence 1AR-POL0311. In a letter submitted to the NWB dated June 19, 2014 Teck responded to the above request by stating that no activity was conducted during 2012 or 2013. Teck also stated that they have adopted the approach outlined in the AANDC's Contaminated Sites program guidance document entitled Abandoned Military Site Remediation Protocol (INAC, 2009).	AANDC notes that until the licence is amended through a water licence renewal process, TECK remains bound by the terms and conditions of the current (expired) water licence.
	3.2 TECK has proposed a new long-term water quality monitoring program for the Polaris mine site.	AANDC has reviewed the new proposed long-term water quality monitoring program and recommends that this monitoring program be adopted into the next approved water licence.
AANDC #4 Mitigation Measures Against Further Subsidence Fence use	4.1 Teck has indicated that fencing would be the best option in the event of further subsidence.	AANDC is not in support of creating permanent infrastructure that would likely require long-term maintenance in the event of further subsidence at the mine site during the post-closure period. Therefore AANDC recommends the option of placing a boulder barrier if safety becomes an issue due to subsidence.
AANDC #5 Security	5.1 The licensee is requesting a $2,215,000 reduction in Security (from $3,539,000 to $1,324,000)	In light of the 2014 inspection results and the above comments and recommendations. At this time AANDC recommends keeping the security at its current amount of $3,539,000.

Intervener's Name: EC

IR # / Issue	Comment	Recommendation/Observation
EC #12: Post Closure Monitoring Data	The Azimuth Consulting Report (dated April 4, 2013 and addressed to Bruce Donald, Teck Metals Ltd.) letter describes the proposed long-term monitoring program for Garrow Creek. EC agrees in principal with the provided rationale for the proposed removal of cyanide, nitrate, nitrite and other nutrients, and radium 226. Similarly, EC agrees in principal that it is not necessary to monitor the historic Garrow Bay and reference locations. The proposed schedule for post-closure monitoring, i.e. Phase 1 from Years 1-5 and Phase 2 during Years 7, 10, 15 and 25 is in line with other northern projects. A compiled summary of post- closure monitoring data for Garrow Lake and Garrow Creek, in combination with the raw data, would potentially strengthen the proposed changes to the monitoring program.	EC recommends that the Proponent support the proposed changes in the monitoring program by providing a detailed summary of the post-closure monitoring data (for all parameters analysed) to date for Garrow Lake and Garrow Creek.
EC #13 Proposed Long Term Monitoring	EC notes that the surface water quality and chemistry of Garrow Lake may be inferred from the water quality and chemistry of Garrow Creek. However, EC does not support the proposed reduction in vertical limnology and chemistry monitoring of Garrow Lake, which has been limited to collecting data in Year 25 (2029). This would result in an 18-year gap in collection of such data. The vertical limnology and chemistry monitoring proposed for Year 25 will provide a snapshot in time. In combination with Year 10 (2014) and Year 15 (2019) snapshots and early post-closure monitoring data, it is possible for trends to emerge. In the absence of the intervening Year 10 and Year 15 data, there will be a gap of 18 years (from Year 7 to Year 25). That would result in a lack of information on the condition of the pycnocline and the monimolimnion for over 70% of the proposed 25-year post- closure period. EC suggests that it would be in the best interests of both the Proponent and the environment to conduct scheduled vertical monitoring to ensure any changes in Garrow Lake are noted earlier in the post-closure period.	In addition to the proposed sampling at Year 25 (2029), EC recommends that vertical limnology and chemistry monitoring of the Garrow Lake centre location are also conducted in Year 10 (2014) and Year 15 (2019), in step with the schedule proposed for Garrow Creek water quality.
EC# 14 Quality Assurance and Quality Control	Quality assurance and quality control is discussed on Page 8 of the Azimuth Consulting letter report referenced above. The QA/QC measures outlined include: 1) collecting a second complete set of water quality parameters; and 2) inclusion and analysis of a trip blank. EC notes that it is also best practice to collect and analyze a field blank. Subsection 5.8, Quality Assurance and Quality Control for Water Quality Monitoring, of the document Metal Mining Technical Guidance for Environmental Effects Monitoring (EC, 2012) provides detailed QA/QC guidance. In particular, Subsection 5.8.4 details the use of blanks and duplicate samples. Trip blanks are used to check contamination from	In addition to the QA/QC measures described for the proposed long-term monitoring program for Garrow Creek, EC also recommends that a field blank is included, as described by the Metal Mining Technical Guidance for Environmental Effects Monitoring (EC, 2012).

	sample bottles, caps and preservatives during transport, storage and analysis. A sample bottle is filled in the laboratory with blank water (i.e. deionized water) and preserved in the same manner as the test samples. Trip blanks are transported to the field with regular sample bottles and submitted to the laboratory unopened, together with the test samples. They are opened at the time of analysis and analyzed in the same manner as the samples. Field blanks are used to check contamination from all potential sources of contamination of the sample. These include possible contamination of sample bottles, caps, preservatives, equipment, filter paper (if samples are to be filtered), atmospheric contamination, sampling techniques, and analysis. Field blanks are collected by obtaining blank water (i.e. deionized water) from the laboratory conducting the analyses, transporting the water to the field and taking it through all sample collection, handling and processing steps that the test samples undergo (e.g. transfer to a sample container, preservation, and exposure to the environment). Field blanks are transported, stored and analyzed in the same manner as test samples.	